

## CLAIMS

What is claimed is:

5        1.     A method for forming an image, the method comprising the steps  
of:

(a)     imaging an imageable element and forming an imaged imageable  
element, the imaged imageable element comprising imaged regions and  
unimaged regions in an imageable layer;

in which:

10                the imageable element is imaged either with ultraviolet radiation,  
with infrared radiation, or with heat,

the imageable element comprises:

a substrate comprising a hydrophilic surface, and

the imageable layer over the hydrophilic surface, and

15                the imageable layer comprises an imageable composition that  
comprises:

a latent Brönsted acid,

a water-soluble or water-dispersible binder, and

an acid-activated cross-linking agent;

20        (b)     heating the imaged imageable element; and

(c)     developing the imaged imageable element with water and removing  
the unimaged regions.

2.     The method of claim 1 in which the water-soluble or water-  
dispersible binder is a vinylpyrrolidone/vinyl acetate copolymer.

25        3.     The method of claim 2 in which the latent Brönsted acid is a water-  
soluble onium salt.

4.     The method of claim 3 in which the latent Brönsted acid is a  
diazonium salt.

5.     The method of claim 4 in which the acid-activated cross-linking

agent is a melamine resin.

6. The method of claim 5 in which the element is imaged with ultraviolet radiation.

7. The method of claim 5 in which imageable composition additionally  
5 comprises a photothermal conversion material and the element is imaged with infrared radiation.

8. The method of claim 5 in which the element is imaged with heat.

9. The method of claim 1 in which the latent Brönsted acid is a water-soluble onium salt.

10. The method of claim 9 in which the latent Brönsted acid is a diazonium salt.

11. The method of claim 10 in which the acid-activated cross-linking agent is a melamine resin.

12. The method of claim 1 in which the acid-activated cross-linking  
15 agent is a melamine resin.

13. The method of claim 1 in which (i) the imageable composition additionally comprises a photothermal conversion material, and (ii) the element is imageable with ultraviolet radiation, with infrared radiation, and with heat.

14. The method of claim 13 in which the water-soluble or water-dispersible binder is a vinylpyrrolidone/vinyl acetate copolymer.  
20

15. The method of claim 14 in which the latent Brönsted acid is a water-soluble onium salt.

16. The method of claim 15 in which the latent Brönsted acid is a diazonium salt.

17. The method of claim 16 in which the acid-activated cross-linking  
25 agent is a melamine resin.

18. The method of claim 17 in which the water-soluble onium salt is 2-

methoxy-4-aminophenyl diazonium hexafluorophosphate.

19. The method of claim 13 in which the latent Brönsted acid is a water-soluble onium salt.

20. The method of claim 19 in which the latent Brönsted acid is a  
5 diazonium salt.

21. The method of claim 20 in which the acid-activated cross-linking agent is a melamine resin.

22. The method of claim 13 in which the acid-activated cross-linking agent is a melamine resin.

10 23. An image formed by a method comprising the steps of:

(a) imaging an imageable element and forming an imaged imageable element, the imaged imageable element comprising imaged regions and unimaged regions in an imageable layer;

in which:

15 the imageable element is imaged either with ultraviolet radiation, with infrared radiation, or with heat,

the imageable element comprises:

a substrate comprising a hydrophilic surface, and

the imageable layer over the hydrophilic surface, and

20 the imageable layer comprises an imageable composition that comprises:

a latent Brönsted acid,

a water-soluble or water-dispersible binder, and

an acid-activated cross-linking agent;

25 (b) heating the imaged imageable element; and

(c) developing the imaged imageable element with water and removing the unimaged regions.

24. The image of claim 23 in which:

the water-soluble or water-dispersible binder is a vinylpyrrolidone/vinyl

acetate copolymer;

the latent Brönsted acid is a water-soluble onium salt.; and

the acid-activated cross-linking agent is a melamine resin.

25. The image of claim 24 in which the water-soluble onium salt is a  
5 diazonium salt.

26. An imageable element comprising:

a substrate comprising a hydrophilic surface, and

the imageable layer over the hydrophilic surface,

in which the imageable layer comprises an imageable composition that

- 10 comprises a latent Brönsted acid, a water-soluble or water-dispersible binder,  
and an acid-activated cross-linking agent.

27. The imageable element of claim 26 in which:

the water-soluble or water-dispersible binder is a vinylpyrrolidone/vinyl  
acetate copolymer;

- 15 the latent Brönsted acid is a water-soluble onium salt.; and  
the acid-activated cross-linking agent is a melamine resin.

28. The imageable element of claim 27 in which the water-soluble  
onium salt is a diazonium salt.

4067518-01E403